

Applicant : Noritsugu Yamasaki et al.  
Serial No. : 09/869,101  
Filed : June 22, 2001  
Page : 10 of 13

Attorney's Docket No.: 14878-082001 / D1-006PCT-US

### REMARKS

Applicants have amended claims 1-5 to more particularly point out and distinctly claim the subject matter of this invention. Applicants make these amendments without prejudice to pursuing the non-pursued subject matter in a later filed application claiming benefit of this application. Claims 1-6 are currently pending. Reconsideration of this application, as amended, is respectfully requested in view of the remarks below.

#### Rejection under 35 U.S.C. § 102(a), (b) and (e)

##### I

Claims 1-4 and 6 are rejected under 35 U.S.C. § 102(a) as being anticipated by Yamasaki et al., WO 99/00373. Applicants disagree. The present application claims priority of Japanese application JP 10-366870, filed December 24, 1998. Its foreign priority date predates the publication date of WO 99/00373, i.e., January 7, 1999. As a result, WO 99/00373 does not constitute a 102(a) reference against claims 1-4 and 6. Applicants respectfully request withdrawal of this rejection.

Submitted herewith is a verified English translation of Japanese application JP 10-366870 (as "Exhibit A"). Applicants also provide, for the Examiner's convenience, a copy of the combined declaration and power of attorney document for the instant application (as "Exhibit B"), which was filed on December 6, 2001. This establishes that Japanese application JP 10-366870 was referred to in the declaration as required by 37 C.F.R. § 1.63.

##### II

Claims 1-4 and 6 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Yamasaki et al., WO 97/24334, and under 35 U.S.C. § 102 (e) as being anticipated by Sperl et al., US Patent 6,348,032 (the '032 patent). Since WO 97/24334 is in a non-English language, its English equivalent, i.e., US Patent 6,166,219 (the '219 patent), will be referred to below.

Among the rejected claims, claim 1, the only independent claim, will be discussed first. Claim 1, as amended, covers a benzimidazole compound of formula (I). See formula (I) depicted above. "A" of the benzimidazole compound represents a benzene ring. This benzene ring is

Applicant : Noritsugu Yamasaki et al.  
Serial No. : 09/869,101  
Filed : June 22, 2001  
Page : 11 of 13

Attorney's Docket No.: 14878-082001 / D1-006PCT-US

substituted by a halogen and a group selected from ethyl, n-butyl, n-pentyl, n-heptyl, methoxy, ethoxy, n-propyloxy, n-pentyloxy, n-hexyloxy, octyloxy, lower alkyloxy-alkyloxy, (cyclopentylmethyl)oxy, alkynyl having 3-8 carbon atoms, methylthio, alkanoylamino, N-substituted lower alkylamino, and morpholino. Thus, the benzimidazole compounds of claim 1 (as amended) have a di-substituted benzyl group at position 1.

The Examiner refers to two specific prior art compounds, i.e., Compound 165 in the '219 patent and Example 111 in the '032 patent, alleging that these compounds anticipate the claimed compounds. Each of the two compounds is substituted by a 2-chlorobenzyl group at position 1 of benzimidazole. This benzyl group is mono-substituted. In contrast, the corresponding benzyl group of the compounds of claim 1 (as amended) is di-substituted. Thus, Compound 165 and Example 111 do not anticipate compounds of claim 1 (as amended). Applicants therefore submit that claim 1 is not anticipated by the '219 patent and the '032 patent.

On the basis of the reasoning set forth above, claims 2-4 and 6, which depend from claim 1, are also not anticipated by the two references. Applicants respectfully request withdrawal of this rejection.

Rejection under 35 U.S.C. § 103(a)

Claims 1-6 are rejected as being unpatentable over WO 99/00373, WO 97/24334 (its English equivalent, the '219 patent, will be referred to below) and the '032 patent, each taken alone or in combination with one another. As mentioned above, the present application claims priority of JP 10-366870, and therefore has a foreign priority date predating the publication date of WO 99/00373. As a result, WO 99/00373 is no longer a 103(a) reference against the present application. Applicants request that the obviousness rejection in view of this reference be withdrawn.

The '219 patent and the '032 patent each disclose a benzimidazole generic formula, which has multiple variables selected from a broad range of functional groups. The Examiner alleges that "the motivation to make the claimed compounds derives from the expectation that structurally similar compounds would possess similar activity." See the Office Action, page 4-5.

Applicant : Noritsugu Yamasaki et al.  
Serial No. : 09/869,101  
Filed : June 22, 2001  
Page : 12 of 13

Attorney's Docket No.: 14878-082001 / D1-006PCT-US

Applicants respectfully disagree. Each prior art generic formula encompasses a vast number, and perhaps even an infinite number of compounds. Neither the '219 patent nor the '032 patent expressly teaches a particular reason to select Applicants' claimed compounds from either the '219 or the '032 genus. Moreover, the closest exemplified prior art compounds have mono-substituted benzyl groups or dihalo-substituted benzyl groups at position 1. The benzyl groups of Applicants' claimed compounds are distinguishable. They have two substituents, i.e., a halogen and a non-halogen group selected from ethyl, n-butyl, n-pentyl, n-heptyl, methoxy, ethoxy, n-propyloxy, n-pentyloxy, n-hexyloxy, octyloxy, lower alkyloxy-alkyloxy, cyclopentylmethyloxy, alkynyl having 3-8 carbon atoms, methylthio, alkanoylamino, N-substituted lower alkylamino, and morpholino. The prior art examples do not lead to Applicants' claimed compounds. In view of the large size of the prior art genus and lack of teaching of Applicants' claimed formula I compounds, a *prima facie* case of obviousness against claims 1-6 has not been established.

Even if such a *prima facie* case were made (which Applicants do not concede), the rejection can be overcome by a showing of unexpected advantages of the claimed compounds. In support of such a showing, Applicants submit Mr. Hiroshi Kayakiri's Declaration, attached hereto as "Exhibit C." The test results described in the Declaration show that similar levels of blood sugar reduction (ca. 40-50 %) *in vivo* as seen using Compound 163 or Compound 172 (disclosed in the '219 Patent) can be achieved using lower dosages of Applicants' claimed compounds. In fact, Applicants' tested compounds were at least about 3-fold more active than the two cited art compounds. In other words, the compounds of this invention are more efficacious than the two art compounds. Note that Compound 163 is also disclosed in the '032 patent as Example 111 in column 40. In view of these unexpected advantages, claims 1-5 are clearly not rendered obvious by the '219 patent and the '032 patent. Claim 6 covers a pharmaceutical composition containing a compound of any of claims 1-5, and is also not obvious for the same reasoning.

Applicants therefore submit that the claimed compounds demonstrate superior activity compared to the two cited art compounds and therefore are not rendered obvious by the cited art.

Applicant : Noritsugu Yamasaki et al.  
Serial No. : 09/869,101  
Filed : June 22, 2001  
Page : 13 of 13

Attorney's Docket No.: 14878-082001 / D1-006PCT-US

### Double patenting rejection

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of the '219 patent and over claims 1-16 of Yamasaki et al., US Patent 6,420,409 (the '409 patent).

As discussed above, claims 1-6 are not rendered obvious by the '219 patent. In light of the claim amendments stated above, claims 1-6 are also not obvious over the '409 patent. Applicants submit that the obviousness-type double patenting rejection has been overcome.

### CONCLUSION

For the reasons set forth above, Applicants submit that all grounds for the rejections asserted by the Examiner have been overcome, and that the claims, as pending, define subject matter that is novel and nonobvious over the prior art. Applicants ask that all claims be allowed.

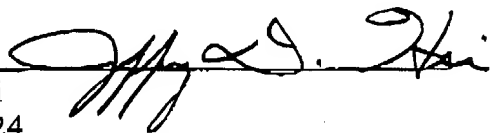
Enclosed is a \$930 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050, referencing attorney docket number 14878-082001.

Respectfully submitted,

Date: September 25, 2003

Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110-2804  
Telephone: (617) 542-5070  
Facsimile: (617) 542-8906

20728825.doc

  
Jeffrey D. Hsi  
Reg. No. 40,024